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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,798	02/26/2002	George E. Berkey	SP02-042	8024
22928	7590	03/01/2004	EXAMINER	
CORNING INCORPORATED			CONNELLY CUSHWA, MICHELLE R	
SP-TI-3-1				
CORNING, NY 14831			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/085,798	<b>Applicant(s)</b> BERKEY ET AL.	
	<b>Examiner</b> Michelle R. Connelly-Cushwa	<b>Art Unit</b> 2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 and 32-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17 and 32-38 is/are allowed.
- 6) ☒ Claim(s) 18-20 is/are rejected.
- 7) ☒ Claim(s) 21-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1103</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's Amendment filed November 12, 2003 has been fully considered and entered.

The indicated allowability of claims 19 and 20 is withdrawn in view of the newly discovered reference(s) to Golowich et al. (US 6,574,403 B1). Rejections based on the newly cited reference(s) follow.

### ***Information Disclosure Statement***

The prior art documents submitted by applicant in the Information Disclosure Statement filed on November 14, 2003 have all been considered and made of record (note the attached copy of form PTO-1449).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Golowich et al. (US 6,574,403 B1).**

Regarding claim 18; Golowich et al. discloses that multimode optical fibers, which comprises a core and a cladding, include a peak wavelength at only one wavelength in

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which the fiber is optimized. Golowich et al. further discloses that for a conventional multimode optical fiber configured for optimal performance at 850nm (the peak wavelength) and operating at approximately 1300 nm (the operating wavelength), the relative delay of higher order modes is inherently larger than the relative delay of lower modes (see column 5, lines 48-67). Therefore, Golowich et al. discloses an optical fiber, which is conventional in the art, the fiber including a core in a cladding, wherein the fiber is a multimode fiber at an operating wavelength (1300 nm) and has a peak bandwidth wavelength (850 nm) offset from the operating wavelength, wherein the offset is sufficient enough to cause the relative delay of the higher order modes to be inherently larger than the relative delay of lower modes, which inherently substantially reduces intermodal noise at the operating wavelength (1300 nm).

Regarding claim 19; at the operating wavelength (1300 nm) each mode has a group time delay and all of the group time delays are either all positive or negative (see Figure 2).

Regarding claim 20; at the operating wavelength (1300 nm) each mode has a group time delay and the absolute value of the sum of the group time delay difference is greater than zero (see Figure 2).

***Allowable Subject Matter***

Claims 1-17 and 32-38 are allowed.

Claims 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art cited on attached form PTO-892 is the most relevant prior art known, however, the invention of claims 1-17, 21-24 and 32-38 distinguishes over the prior art for the following reasons.

Regarding claims 1-17; the claims are allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical fiber as defined in claim 1, comprising a maximum relative index percent different between the core and a cladding in the range of approximately 0.3% to approximately 0.5% and a bandwidth of at least approximately 0.6 GHz.km at 850 nm in combination with the other limitations of claim 1. Claims 2-17 depend from claim 1.

Regarding claims 21 and 22; the claims are allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical fiber as defined in claim 21, the fiber being configured for multimode operation in at a wavelength less than 1300 nm and single mode operation at a wavelength of at least approximately 1300 nm in combination with the limitations of base claim 18. Claim 22 depends from claim 21.

Regarding claim 23; the claim is allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical fiber as defined in claim 23, wherein the fiber is configured to have a bandwidth of at least approximately 0.6 GHz.km at 850 nm in combination with the limitations of base claim 18.

Regarding claim 24; the claim is allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical fiber as defined in claim 24, wherein the maximum index difference between the core and the cladding is in the range of approximately 0.3 to approximately 0.5% in combination with the limitations of base claim 18.

Regarding claims 32-36; the claim are allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical fiber as defined in claim 32, comprising a maximum relative index percent difference between the core and the cladding in the range from approximately 0.3% to approximately 0.5% in combination with the other limitations of claim 32. Claims 33-36 depend from claim 32.

Regarding claim 37; the claim is allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical fiber as defined in claim 37, comprising a maximum relative index percent difference between the core and a cladding in the range of approximately 0.3% to approximately 0.5% in combination with the other limitations of claim 37.

Regarding claim 38; the claim is allowable over the prior art of record because none of the references either alone or in combination disclose or render obvious an optical fiber as defined in claim 38, comprising a maximum relative index percent difference between the core and a cladding in the range of approximately 0.3% to approximately 0.5% in combination with the other limitations of claim 38.

Hence, there is no reason or motivation for one of ordinary skill in the art to use the prior art of record to make the invention of claims 1-17, 21-24 and 32-38.

***Response to Arguments***

Applicant's arguments, see pages 8-9, filed November 12, 2003, with respect to prior art rejections over Sarchi et al. (US 2002/0102082 A1) have been fully considered and are persuasive. The prior art rejections over Sarchi et al. have been withdrawn.

***Conclusion***

Any inquiry concerning the merits of this communication should be directed to Examiner Michelle R. Connelly-Cushwa at telephone number (571) 272-2345. The examiner can normally be reached 9:00 AM to 7:00 PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.

  
Michelle R. Connelly-Cushwa  
Patent Examiner  
February 10, 2004

  
AKM ENAYET ULLAH  
PRIMARY EXAMINER